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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,696	12/01/2003	Toshiya Hataguchi	70021172-1	2553
7590 01/26/2006				
AGILENT TECHNOLOGIES, INC. Legal Department, DL 429 Intellectual Property Administration P.O. Box 7599 Loveland, CO 80537-0599			EXAMINER WYATT, KEVIN S	
			ART UNIT 2878	PAPER NUMBER

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

11-11

Office Action Summary	Application No. 10/725,696	Applicant(s) HATAGUCHI ET AL.	
	Examiner Kevin Wyatt	Art Unit 2878	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/01/2005 has been entered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Rothamel (U.S. Patent No. 6,639,206 B1).

Regarding claim 1, Rothamel shows in Fig. 1 a drum (7) comprising a circular cylindrical surface (5), a first track (10) comprising reflectors (2) evenly spaced apart around circular cylindrical surface, said reflective stripes comprising a portion of a said circular cylindrical surface; a first light source (1) that illuminates reflectors at an oblique

angle relative to normal, and a first photodetector (3) positioned to receive reflected light from reflectors during rotation of drum.

Regarding claim 5, Rothamel discloses in Fig. 1 a circular cylindrical surface (5) which lies between first track (10) and axis (8).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rothamel (U.S. Patent No. 6,639,206 B1) in view of Chen (U.S. Patent No. 6,817,528 B2).

Regarding claim 2, Rothamel discloses the claimed invention as stated above. Rothamel does not disclose a light source that emits a collimated beam of light. However, Chen shows in Fig. 1 an apparatus comprising two collimating lenses (212 and 214) converting light emitted from two light sources (202 and 204) into two collimated beams of light (col. 6, lines 36-38). It would have been obvious to one skilled in the art to provide in Rothamel collimated lenses to collimate light rays for each light source for the purpose of maintaining alignment of active lighting area with the area of photodetector during drum rotation.

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothamel (U.S. Patent No. 6,639,206 B1) in view of Suganuma (U.S. Patent No. 6,448,996 B2).

Regarding claims 3 and 4 Rothamel discloses the claimed invention as stated above. Rothamel does not disclose a drum rotated by a shaft that is coincident to said axis. Suganuma discloses in Fig1. a drum (14) which rotates about its own axis by means of a rotating shaft (18) which coincides with drum's axis (col. 8 lines 24-31). It would have been obvious to one skilled in the art to provide the shaft of Suganuma to device of Rothamel for the purpose of rotating the drum of Rothamel.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rothamel (U.S. Patent No. 6,639,206 B1) in view of Karim-Panahi (U.S. Patent No. 5,4338,882).

Regarding claim 7, Rothamel discloses the claimed invention as stated above. However, Rothamel does not disclose a second track comprising alternating reflective and non-reflective stripes arranged on said circular cylindrical surface, a second light source for illuminating stripes at an oblique angle relative to said normal; and a second photodetector positioned to receive reflected light from reflectors which form images of light source on photodetector during rotation of drum relative to said second photodetector. Karim-Panahi shows in Fig1. a rotating shaft comprising two circumferential bands (4 and 4') of reflective marks adhered to cylindrical surface (column lines 66-68 and column 4, lines 1-9). Karim-Panahi also shows in Fig1. two photodetectors (8 and 8') designed to receive reflected light from light source (5 and 5', disclosed in col. 4, lines 10-11 but not labeled in Fig.1). It would have been obvious to

one skilled in the art to provide in Rothamel a second track of alternating reflective non-reflective stripes, a second light source and a second photodetector for the purpose of collecting more data on the periodic motion of rotating member.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rothamel (U.S. Patent No. 6,639,206 B1) in view of Karim-Panahi (U.S. Patent No. 5,4338,882), and Cohen (U.S. Patent No. 4,124,839).

Regarding claim 8, the combination of Rothamel and Karim-Panahi disclose the claimed invention as stated above. This combination does not provide a drum comprising two tracks where the widths of the stripes of the first track are different from the widths of the stripes of the second track. However, Cohen shows in Fig. 4 a cylindrical drum comprising six encoding tracks (170-180) comprising stripes of varying widths. It would have been obvious to one skilled in the art to modify the combination of Rothamel and Karim-Panahi by placing additional encoding tracks on the cylindrical drum as taught by Cohen for the purpose of providing additional encoding data to the system (column 9, lines 23-27).

Response to Arguments

In response to applicant's arguments that claims 1 and 5 as amended above are not anticipated by Rothamel, the examiner disagrees. The reflective stripes comprise a portion of the circular cylindrical surface on their reverse side. In addition, the reflective stripes according to Figs. 1, and 4-7 indicate the light beam (14) which represents the image of the light source which is placed directly onto the detector (3). therefore, the

reflectors form an image of the light source on the photodetector. Therefore, the amended claims of 1 and 5 are not sufficient to overcome the anticipation of Rothamel.

In response to applicant's arguments that claim 2 as amended above is not obvious in view of Chen, the examiner disagrees. Chen need only to provide a collimated light source in combination with the teachings of Rothamel. Therefore, the 103(a) rejection of claim 2 in view of Chen is appropriate.

In response to applicant's arguments that claim 8 as amended above is not obvious in view of Cohen, the examiner disagrees. Applicant points out that Karim-Panahi teaches that the torque is measured by measuring phase shift of the two signals produced by the two tracks. However, the signal being measured is angular velocity Ω (distance of rotation per/time division equivalent to angular frequency (revolutions per/time division)) of the shaft and not counted pulses per/time division (col. 4, lines 21-26). Therefore, such tracks need not have markings of the same width or identical bands. The reflected light pulses from the markings produce the traces shown in Figs. 2-3 (col. 4, lines 21-32). Therefore, the 103(a) rejection of claim 8 in view of Cohen is appropriate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Wyatt whose telephone number is (571)-272-5974. The examiner can normally be reached on Monday-Friday.

Art Unit: 2878

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571)-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


K.W.


THANH X. LUU
PATENT EXAMINER